

species resembles such Old World species as the group of *T. crassifolia*.

There are a few other American species having linear, exindusiate sori. *Dryopteris ptarmica* var. *asplenioides* has such soral structure, although the type variety is distinct in having round sori with reniform indusia. The sori of *Thelypteris linkiana*, *T. gracilis*, *T. atrovirens* and others are also oblong and naked. The elongation of sori in the thelypteroid series is discussed critically in my recent paper on the morphology of that series (Iwatsuki, in ed.).

I wish to express my sincere thanks to C. V. Morton, whose kindness made possible this study.

LITERATURE CITED

- CHRISTENSEN, C. 1913. A monograph of the genus *Dryopteris*. I. Vid. Selsk. Skr. VII. **10**: (196-198).
- IWATSUKI, K. 1963. Taxonomic Studies of Pteridophyta VII. Acta Phytotax. Geobot. **19**: 112-126.
- . 1963a. Taxonomy of the Thelypteroid Ferns with Special Reference to the Species of Japan and Adjacent Regions I. General Considerations. Mem. Coll. Sci. Univ. Kyoto B. **30**: 21-51.

DEPARTMENT OF BOTANY, FACULTY OF SCIENCE, KYOTO UNIVERSITY, KYOTO, JAPAN.

Some New Name-combinations for Southeastern Ferns

EDGAR T. WHERRY

While several popular guides to the ferns of the northeastern states are available, the only broad treatment of those occurring farther south is Small's *Ferns of the Southeastern States*, which was published in 1938 and has long been out of print. The writer has accordingly undertaken to fill this need, and a book, *Southern Fern Guide*, is to be published soon. In its preparation several new name-combinations proved desirable. These are tabulated on page 346 of the book, but to render them fully valid, they are published herewith, accompanied by more extensive literature citations and discussion.

13812
1393
ASPLENIUM PUMILUM Sw. var. **anthriscifolium** (Jacq.) Wherry, *stat. nov.*
Asplenium anthriscifolium Jacq., *Collectanea* **2**: 103. *Pl. 2, fig. 2-3.*
1788.

Because *A. pumilum* Sw. and *A. anthriscifolium* Jacq. intergrade in tropical America it has been usual to reduce the latter to synonymy under *A. pumilum* Sw. In Florida colonies, however, they are markedly distinct in habitat, cutting, and pubescence at all stages of development from first blade to fertile maturity. Their segregation at some taxonomic level is accordingly deemed desirable. Since their differences are not especially fundamental, that of variety is here proposed.

1381
7403
3703
3091
GONIOPHLEBIUM **triseriale** (Sw.) Wherry, *comb. nov.*

Polypodium triseriale Sw., *Jour. Bot. Schrad.* **1800**²: 26. 1801.

Polypodium brasiliense Poir., *Encycl. Meth.* **5**: 525. 1804.

Goniophlebium brasiliense (Poir.) Farw., *Amer. Midl. Nat.* **12**: 295.
1931. (Accepted by Small, 1938).

There is admittedly some doubt whether this American taxon is congeneric with the Asiatic one on which the name *Goniophlebium* was founded by Presl (1836). Having been "brought up" on Small's 1938 work, the writer is following his usage. Since the prior epithet of Swartz is now believed to apply to the same taxon as that of Poiret's, a new combination is needed.

GONIOPTERIS **sclerophylla** (Kunze) Wherry, *comb. nov.*

Aspidium sclerophyllum Kunze in Spreng., *Syst. Veg.* **4**: 98. 1827.

Dryopteris sclerophylla (Kunze) C. Chr., *Biol. Arb. Tilegn. E. Warming* **84**. 1911.

Thelypteris sclerophylla (Kunze) Morton, *Amer. Fern Jour.* **41**: 87.
1951.

While the genus *Goniopteris* Presl (1836) has been accepted by such authorities as Christensen, Copeland, and Holttum, cogent arguments for denying generic status to such segregates have been presented by Morton (1963), who reduces this to *Thelypteris* subgenus *Cyclosorus* section *Goniopteris*. Although admitting that the intergradations of thelypteroid ferns over the world tropics justifies such an arrangement, the writer still feels that in the southeastern United States it is preferable to follow Small in recognizing minor groups as genera. The pres-

ent taxon having been discovered in Florida since Small's day, a new combination is needed for it.

LEPTOGRAMMA PILOSA var. **alabamensis** (Crawf.) Wherry, *comb. nov.*

Thelypteris pilosa var. *alabamensis* Crawf., Amer. Fern Jour. **41**: 16. 1951.

The generic problems discussed in the preceding paragraph apply here as well. *Leptogramma* J. Smith (1842) is reduced by Morton (1963) to *Thelypteris* subgenus *Cyclosorus* section *Leptogramma*. Had the present taxon been known in the United States in Small's day, he would surely have accepted *Leptogramma* as a "good" genus and the combination *L. pilosa* (M. & G.) Underw. (1902). In any case, the writer favors doing this to make possible a simple key for use in the southeastern United States, contrasting the reniform-indusiate sori of *Thelypteris* with the sori formed by a streak of sporangia without indusium characterizing *Leptogramma*.

MICROGRAMMA **heterophylla** (L.) Wherry, *comb. nov.*

Polypodium heterophyllum L., Sp. Pl. 1003. 1753.

Polypodium exiguum Heward, Mag. Nat. Hist. II, **2**: 458. 1838.

Polypodium swartzii Baker in Hook. & Bak., Syn. Fil. 357. 1868.

Phymatodes swartzii (Bak.) Underw., Our Nat. Ferns, ed. 6, 84. 1900.

Phymatodes exiguum (Hew.) Underw., Torreya **3**: 18. 1903.

Phymatodes heterophyllum (L.) Small, Ferns Florida 81. 1932.

Microsorium heterophyllum (L.) Hawkes, Amer. Fern Jour. **41**: 52. 1951.

Craspedaria heterophylla (L.) Diddell, Amer. Fern Jour. **43**: 114. 1953. (As *C. heterophyllum*).

This taxon already having been renamed so many times, the proposal of still another combination seems regrettable. However, the writer can not but agree with Copeland (1947) that the genus *Microgramma* of Presl (1836) should be expanded to include *Craspedaria* of Link (1841) in that in view of their correspondence in all other respects, their difference in sorus outline (elliptical versus circular) is of no fundamental importance.

THELYPTERIS × **lindheimeri** (C. Chr.) Wherry, *stat. nov.*

Dryopteris normalis var. *lindheimeri* C. Chr., Danske Vid. Selsk. Skr. VII, **10**: 182. 1913.

Aspidium lindheimeri A. Br. ex C. Chr., loc. cit., as a synonym.

Thelypteris augescens var. *lindheimeri* (C. Chr.) R. P. St. John, in Small, Ferns SE. U. S. 241. 1938.

Dryopteris augescens var. *lindheimeri* (C. Chr.) Broun, Ind. N. A. Ferns 62. 1938.

This taxon combines the characters of *augescens* and *normalis* in such a way as to suggest a hybrid origin, which is confirmed by its abortive spores.

THELYPTERIS NORMALIS var. *harperi* (C. Chr.) Wherry, *comb. nov.*

Dryopteris normalis var. *harperi* C. Chr., Danske Vid. Selsk. Skr. VII, **10**: 182. 1913.

Thelypteris ovata R. P. St. John, in Small, Ferns SE. U. S. 230. 1938.

Thelypteris ovata var. *harperi* (C. Chr.) R. P. St. John, in Small, *op. cit.* 233. 1928.

Dryopteris ovata (R. P. St. John) Broun, Ind. N. Amer. Ferns 76. 1938.

Dryopteris ovata var. *harperi* (C. Chr.) Broun, Ind. N. Amer. Ferns 76. 1938.

LITERATURE CITED

- COPELAND, E. B. 1947. Genera Filicum. pp. 247. 10 pls. Waltham.
- LINK, H. F. 1841. Filicum species in horto regio botanico Berolinensi cultae. pp. 179. Berlin.
- MARTENS, M. & H. GALEOTTI. 1842. Mémoire sur les fougères du Mexique, et considérations sur la géographie botanique de cette contrée. pp. 99. 23 pls.
- MORTON, C. V. 1963. The classification of *Thelypteris*. Amer. Fern Jour. **53**: 149-154.
- PRESL, K. B. 1836. Tentamen pteridopgraphia, seu genera filicacearum praesertim juxta venarum decursum et distributionem exposita. pp. 290. Prague.
- SMITH, J. 1842. An arrangement and definition of the genera of ferns, with observations on the affinities of each genus. Hook. Jour. Bot. **4**: 38-70.
- SWARTZ, O. 1788. Nova genera et species plantarum prodromus. pp. 152. Uppsala.
- UNDERWOOD, L. M. 1902. American Ferns, IV. The genus *Gymnogramme* of the Synopsis Filicum. Bull. Torrey Club **29**: 617-634.
- DEPARTMENT OF BOTANY, UNIVERSITY OF PENNSYLVANIA,
PHILADELPHIA 4, PENNSYLVANIA.